

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A48EU
Revision 3
APEX Aircraft
R2160

August 14, 2002

TYPE CERTIFICATE DATA SHEET No. A48EU

This data sheet, which is a part of Type Certificate No. A48EU, prescribes conditions and limitations under which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: APEX Aircraft
9, rue de l'Aviation
21121 Darois
France

Type Certificate Holder Record. AVIONS PIERRE ROBIN was previous holder of A48EU. Effective July 18, 2002, APEX became TC holder.

1. Model R2160, 2 PCLM (Acrobatic Category), approved November 15, 1982

Engine Lycoming O-320 D2A or Lycoming O-320D2A with "Christen" inverted oil system.

Fuel 100LL minimum aviation grade gasoline.

Engine limits For all operations 2700 rpm (160 HP)
Maximum normal operating rate 2600 rpm.

Propeller Sensenich 74DM-6S5-2-66
or 74DM-6S5-2-64

Propeller limits (Acrobatic Categories).
Static r.p.m. at maximum permissible throttle setting - 2200 ± 50
Diameter 72 inches. No cutoff permitted.
Spinner Robin 5860.

Airspeed limits		<u>Acrobatic Category</u>	
	Never exceed	205 mph (178 kts)	
	Maximum structural cruising	146 mph (127 kts)	(For acrobatic maneuver entry speeds see Airplane Flight Manual)
	Maneuvering	146 mph (127 kts)	
	Flaps extended (35°)	112 mph (97 kts)	
	See Flight Manual for acrobatic maneuvers).		

Flight Maneuvering Load Factor (G's)	Flaps up	+6.0
		-3.0
	Flaps down	+2.0
		0

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C.G. range	Forward limit 9.0 in. @ 1543 lbs. Intermediate limit 13.0 in. @ 1764 lbs. Aft limit 16.5 in. @ 1764 lbs. Straight line variation between points given: 9.0 in. @ 1543 lbs. to 13.0 in. @ 1764 lbs. 13.0 in. @ 1764 lbs. to 16.5 in. @ 1764 lbs.		
Datum	Leading edge Rib No. 5.		
Leveling Means	Top fuselage spar horizontal.		
Empty weight C.G. range	None.		
Maximum weight	Takeoff	1764 lb.	
	Landing	1764 lb.	
No. of seats	2 at (+18.0)		
Maximum baggage	77 lbs. at (+47.6). None for acrobatic category.		
Fuel capacity	31.7 Gal. at (+43.9) (total) 31.0 Gal. at (+43.9) (usable) Minimum fuel quantity for acrobatic: 2.6 Gal.		
Oil capacity	Maximum Capacity: 8 qts. Minimum: 8 qts. Maximum oil quantity for acrobatics: 8 qts.		
Control surface movements	Wing Flaps	35° ± 2.0	
	Ailerons	up	20° ± 1.5 Down 15° ± 1.5
	Rudder (L&R)	30° ± 2	
	Elevator	up	10° ± 0.5 Down 12.5° ± 0.5
	Elevator Trim Tab		
	Elevator Up Tab	up	33° ± 3.0 Down 5° ± 3.0
	Elevator Down Tab	up	14° ± 3.0 Down 22° ± 3.0
Serial Nos. eligible	A French "Certificat de Navigabilite pour Exportation" endorsed as noted under "Import Requirements", must be submitted for each individual aircraft for which application for U.S. certification is made.		
Import Requirements	An FAA Standard Airworthiness Certificate may be issued on the basis of a French "Certificat de Navigabilite pour Exportation" signed by a representative of the Direction Generale de l'Aviation Civile (DGAC) of France, containing the following statement: "The airplane covered by this Certificate has been examined, tested and found to conform to the type design approved under Type Certificate No. A48EU, and to be in condition for safe operation".		

For issuance of an airworthiness certificate in accordance with §21.183(c), the Direction Generale de l'Aviation Civile of France must certify that the aircraft conforms to the type design and is in condition for safe operation. In that regard, the Direction Generale de l'Aviation Civile of France will certify that the aircraft complies with the latest issue of Avions Pierre Robin Service Bulletins 90, 97, 111, 112, 114, 116, 120, 121, 127, 132, 133, 135, 136, 141, 143, 145, 146, 147, 149, 151, 152 and 153 and all other applicable mandatory continuing airworthiness information that it has issued, in addition to all other requirements of this type certificate data sheet. For issuance of an airworthiness certificate in accordance with §21.183(d), the certificating inspector, or other authorized person, must find, among other things, that the product is in a condition for safe operation.

Certification Basis	<p>Part 23 of the Federal Aviation Regulations Amendment 1 through 9, FAR 21.29; French AIR 2052 Paragraphs 3.3.97 and 3.3.99. FAR-36 Amendment 36-1 through 36-9. Special Certification Review: "The canopy (forward sliding) must be jettisonable." Date of application for type certification: October 16, 1980.</p>
Equipment	<p>The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition the following is required: FAA-approved Airplane Flight Manual, Model R2160, Revision A, dated October, 1982.</p>

NOTES.

- NOTE 1. Current weight and balance report, including list of equipment in certificated empty weight, and loading instructions if applicable, must be in each aircraft at the time of original certification. Empty weight must include unusable fuel of 0.7 lbs. at (+43.9). Basic empty weight includes engine oil of 16.5 lbs.
- NOTE 2. In addition to the placards required in the approved Airplane Flight Manual the following placards must be installed in the appropriate locations as indicated:

1. In full view of the pilot

Limits of Utilization

Acrobatic Category: Takeoff and landing 1764 lb.
Load factors +6, -3

No Smoking.
No objects permitted on floor.
V_a = 146 MPH

2. In the Baggage Compartment

In full view on aft bulkhead: Max. weight 77 lbs.
No luggage allowed during acrobatic flights.

3. On Instrument Panel

For acrobatic category operations, refer to Airplane Flight Manual.

All placards required in the basic approved Flight Manual, installed in the appropriate location.

4. Each individual airplane will be supplied with a placard that specified the operation as VFR, DAY to which the operation of the airplane is limited by the equipment installed.

NOTE 3. Aircraft structure life limit of 3008 hours is suppressed provided main wing structure and its fuselage attachment visual check operations recommended in Avions Pierre Robin Service Bulletin Number 123 are completed every 750 hours after life limit time.

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